

CLAIMS

1. A multi-layer printed wiring board loaded with an electronic component and having external terminals, wherein the external terminals are disposed on both faces.
- 5 2. A multi-layer printed wiring board loaded with an electronic component and having external terminals, wherein a bored portion for accommodating an electronic component is provided in a mounting area, the external terminals are disposed on both faces.
- 10 3. The multi-layer printed wiring board according to claim 1 or 2 wherein the external terminal on the opposite face is disposed off just below the external terminal on the one face.
- 15 4. The multi-layer printed wiring board according to claim 1-3 wherein the external terminal is connected to a via hole in stacked structure and the via hole connected to the external terminal is deflected from the via hole in an adjacent layer in terms of their center line.
5. The multi-layer printed wiring board according to claim 1-4 wherein the multi-layer printed wiring board is formed by overlaying a single side or double side circuit board in which non-through holes formed in insulating material are filled with conductive material.
- 20 6. The multi-layer printed wiring board according to claim 5 wherein the single side or double side circuit boards are connected to each other through a conductive bump formed on the conductive material filled in the non-through holes.
- 25 7. A multi-layer printed wiring board in which a mounted electronic component is wire-bonded from a bonding pad, a substrate being so constructed that a conductor circuit is formed on a single side or double sides of insulation material thereof and the non-through hole leading to the conductor circuit is filled with conductive material, the conductor circuit just above the non-through hole is used as the bonding pad.
- 30 8. A multi-layer printed wiring board in which a mounted electronic component is wire-bonded from a bonding pad, a substrate being so constructed that a conductor circuit is formed on a single side or double sides of insulation material thereof and the non-through hole

- leading to the conductor circuit is filled with conductive material and the conductor circuit just above the non-through hole is used as the bonding pad, while the non-through hole is disposed just below the bonding pad.
9. A multi-layer printed wiring board in which a mounted electronic component is
- 5 wire-bonded from a bonding pad,
- a substrate being so constructed that a conductor circuit is formed on a single side or double sides of insulation material thereof and the non-through hole leading to the conductor circuit is filled with conductive material, the substrates being overlaid through conductive bump formed on conductive material filled in
- 10 the non-through hole,
- the conductor circuit just above the non-through hole being used as the bonding pad.
10. A multi-layer printed wiring board in which a mounted electronic component is
- wire-bonded from a bonding pad,
- 15 a substrate being so constructed that a conductor circuit is formed on a single side or double sides of insulation material thereof and the non-through hole leading to the conductor circuit is filled with conductive material, the substrates being overlaid through conductive bump formed on conductive material filled in
- the non-through hole,
- 20 the non-through hole being disposed just below the bonding pad by using the conductor circuit just above the non-through hole as the bonding pad.
11. The multi-layer printed wiring board according to claim 7-10 wherein the bonding pad is formed in a rectangular shape.
12. The multi-layer printed wiring board according to claim 9 or 10 wherein the
- 25 conductive bump is formed on an opposite face to the conductor circuit of the bonding pad.
13. The multi-layer printed wiring board according to claim 7-10 wherein the external terminals are disposed both faces thereof.
14. The multi-layer printed wiring board according to claim 7-10 wherein a bored
- 30 portion for accommodating an electronic component is provided in a mounting area and the external terminals are disposed on both faces thereof.
15. The multi-layer printed wiring board according to claim 13, 14 wherein the external terminal of the opposite face is disposed off just below the external

terminal and pad of the one face.

16. The multi-layer printed wiring board according to claim 1-6, 13, 14 wherein a via is formed in the mounting area of the electronic component and metallic layer having a heat radiation function is formed in an adjacent portion.

5 17. The multi-layer printed wiring board according to claim 1-6, 10-14 wherein the external terminal is BGA.